

**HOPKINSVILLE WATER ENVIRONMENT AUTHORITY
WATER AND WASTEWATER DEPARTMENTS
A COMPONENT UNIT OF THE CITY OF HOPKINSVILLE, KENTUCKY
NOTES TO FINANCIAL STATEMENTS**

6. LONG-TERM DEBT

Long-term debt at June 30 is as follows:

Revenue Bonds:	<u>Rate</u>	<u>2002</u>	<u>2001</u>
Series 1964 Maturing 2004	3.625%	\$ 20,000	\$ 30,000
Series 1965 Maturing 2004	3.625%	6,000	9,000
Series 1975 Maturing 2007	7.25%	-	3,180,000
Series 1980 Maturing 2020	5.0%	360,000	372,000
Series 1989 Maturing 2007	6.3% to 6.6%	-	3,715,000
Series 1993 Maturing 2007	3.54% to 4.86%	1,949,887	2,240,248
Series 1996 Maturing 2016	5.125% to 5.6%	1,750,000	1,825,000
Series 2002 Maturing 2007	1.50% to 3.40%	<u>5,080,000</u>	<u>-</u>
 Total Bonded Indebtedness		 <u>9,156,887</u>	 <u>11,371,248</u>
 KIA Loans:			
KIA Fund A Wastewater-Maturing 2015	1.2%	6,814,682	7,277,052
KIA Fund B Water Plant-Maturing 2026	1.9%	4,213,182	4,350,597
KIA Fund A Phase II-Maturing 2018	1.8%	2,641,367	2,782,646
KIA Fund A Wastewater-Maturing 2017	1.2%	188,434	200,043
KIA Fund A -Maturing 2019	0.4%	570,135	601,526
KIA Fund A Phase III-Maturing 2020	3.8%	<u>791,707</u>	<u>820,762</u>
 Total KIA Loans		 <u>15,219,507</u>	 <u>16,032,626</u>
 City of Hopkinsville-note payable		 118,076	 118,477
City of Crofton-note payable		341,552	381,505
Water Meter note payable		<u>1,895</u>	<u>4,994</u>
Total debt		24,846,916	27,908,850
Maturities due within one year		<u>(1,777,935)</u>	<u>(2,036,138)</u>
 Long-term debt		 <u>\$23,068,981</u>	 <u>\$25,872,712</u>

The Revenue Bonds are collateralized by the revenue of the water and sewer system and the various special funds established by the bond ordinances. The ordinances provide that the revenue of the system is to be used first to pay operating and maintenance expenses of the system and second to establish and maintain the Revenue Bond Funds. Remaining revenues may then be used for any lawful purpose. The ordinances also contain provisions which, among other items, restrict the issuance of additional Revenue Bonds unless the special funds noted above contain the required amounts and certain financial ratios are met. The HWEA is in compliance with all significant financial requirements as of June 30, 2002 and 2001.

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6. LONG-TERM DEBT

Long-term debt at June 30 is as follows:

Revenue Bonds:	<u>Rate</u>	<u>2003</u>	<u>2002</u>
Series 1964 Maturing 2004	3.625%	\$ 10,000	\$ 20,000
Series 1965 Maturing 2004	3.625%	3,000	6,000
Series 1980 Maturing 2020	5.0%	347,000	360,000
Series 1993 Maturing 2007	3.54% to 4.86%	1,641,382	1,949,887
Series 1996 Maturing 2016	5.125% to 5.6%	1,670,000	1,750,000
Series 2002 Maturing 2007	1.50% to 3.40%	<u>4,585,000</u>	<u>5,080,000</u>
 Total Bonded Indebtedness		 <u>8,256,382</u>	 <u>9,165,887</u>
 KIA Loans:			
KIA Fund A Wastewater-Maturing 2015	1.2%	6,347,012	6,814,682
KIA Fund B Water Plant-Maturing 2026	1.9%	4,073,146	4,213,182
KIA Fund A Phase II-Maturing 2018	1.8%	2,497,533	2,641,367
KIA Fund A Wastewater-Maturing 2017	1.2%	176,713	188,434
KIA Fund A -Maturing 2019	0.4%	538,613	570,135
KIA Fund A Phase III-Maturing 2020	3.8%	<u>761,535</u>	<u>791,707</u>
 Total KIA Loans		 <u>14,394,552</u>	 <u>15,219,507</u>
 City of Hopkinsville-note payable		 117,598	 118,076
City of Crofton-note payable		299,604	341,552
Water Meter note payable		-	1,895
Capital Lease Obligation:			
IBM Credit Corporation		<u>108,563</u>	<u>-</u>
 Total debt		 23,176,699	 24,846,916
 Maturities due within one year		 <u>(2,543,817)</u>	 <u>(1,777,935)</u>
 Long-term debt		 <u>\$20,632,882</u>	 <u>\$23,068,981</u>

The revenue of the water and sewer system and the various special funds established by the bond ordinances collateralizes the Revenue Bonds. The ordinances provide that the revenue of the system is to be used first to pay operating and maintenance expenses of the system and second to establish and maintain the Revenue Bond Funds. Remaining revenues may then be used for any lawful purpose. The ordinances also contain provisions, which, among other items, restrict the issuance of additional Revenue Bonds unless the special funds noted above contain the required amounts and certain financial ratios are met. The HWEA is in compliance with all significant financial requirements as of June 30, 2003 and 2002.

**HOPKINSVILLE WATER ENVIRONMENT AUTHORITY
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NOTES TO FINANCIAL STATEMENTS**

6. LONG-TERM DEBT

Long-term debt at June 30 is as follows:

Revenue Bonds:	<u>Rate</u>	<u>2004</u>	<u>2003</u>
Series 1964 Maturing 2004	3.625%	\$ -	\$ 10,000
Series 1965 Maturing 2004	3.625%	-	3,000
Series 1980 Maturing 2020	5.0%	-	347,000
Series 1993 Maturing 2007	3.54% to 4.86%	1,368,871	1,641,382
Series 1996 Maturing 2016	5.125% to 5.6%	1,585,000	1,670,000
Series 2002 Maturing 2007	1.50% to 3.40%	<u>3,680,000</u>	<u>4,585,000</u>
 Total Bonded Indebtedness		 <u>6,633,871</u>	 <u>8,256,382</u>
 KIA Loans:			
KIA Fund A Wastewater-Maturing 2015	1.2%	5,873,446	6,347,012
KIA Fund B Water Plant-Maturing 2026	1.9%	3,930,440	4,073,146
KIA Fund A Phase II-Maturing 2018	1.8%	2,353,350	2,497,533
KIA Fund A Wastewater-Maturing 2017	1.2%	162,626	176,713
KIA Fund A -Maturing 2019	0.4%	506,977	538,613
KIA Fund A Phase III-Maturing 2020	3.8%	730,202	761,535
KIA Fund A Phase IV (Maturity not established-loan not closed)	1%	2,950,106	-
KIA Fund F, Drinking Water (Maturity not established-loan not closed)	1%	<u>781,883</u>	<u>-</u>
 Total KIA Loans		 <u>17,289,030</u>	 <u>14,394,552</u>
 City of Hopkinsville-note payable		 116,875	 117,598
City of Crofton-note payable		255,556	299,604
Capital Lease Obligation:			
IBM Credit Corporation		<u>68,479</u>	<u>108,563</u>
 Total debt		 24,363,811	 23,176,699
 Maturities due within one year		 <u>(2,230,896)</u>	 <u>(2,543,817)</u>
 Long-term debt		 <u>\$ 22,130,664</u>	 <u>\$ 20,632,882</u>

The revenue of the water and sewer system and the various special funds established by the bond ordinances collateralizes the Revenue Bonds. The ordinances provide that the revenue of the system is to be used first to pay operating and maintenance expenses of the system and second to establish and maintain the Revenue Bond Funds. Remaining revenues may then be used for any lawful purpose. The ordinances also contain provisions, which, among other items, restrict the issuance of additional Revenue Bonds unless the special funds noted above contain the required amounts and certain financial ratios are met. The HWEA is in compliance with all significant financial requirements as of June 30, 2004 and 2003.

City of Hopkinsville (Kentucky)

Water and Sewer Refunding Revenue Bonds

Series 1993

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
04/01/2004	-	-	-	-	-
06/30/2004	-	-	-	-	-
10/01/2004	297,413.94	4.620%	32,467.15	329,881.09	-
04/01/2005	-	-	25,596.89	25,596.89	-
04/02/2005	-	-	-	-	-
06/30/2005	-	-	-	-	355,477.98
10/01/2005	313,241.56	4.680%	25,596.89	338,838.45	-
04/01/2006	-	-	18,267.04	18,267.04	-
06/30/2006	-	-	-	-	357,105.49
10/01/2006	350,097.99	4.770%	18,267.04	368,365.03	-
04/01/2007	-	-	9,917.20	9,917.20	-
06/30/2007	-	-	-	-	378,282.23
10/01/2007	408,115.28	4.860%	9,917.20	418,032.48	-
04/01/2008	-	-	-	-	-
06/30/2008	-	-	-	-	418,032.48
Total	\$1,368,868.77	-	\$140,029.41	\$1,508,898.18	-

Yield Statistics

Average Life	2.135 Years
Average Coupon	4.7918883%

City of Hopkinsville (Kentucky)

Water and Sewer Refunding Revenue Bonds

Series 2002

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
04/01/2004	-	-	-	-	-
06/30/2004	-	-	-	-	-
10/01/2004	910,000.00	2.300%	53,385.00	963,385.00	-
04/01/2005	-	-	42,920.00	42,920.00	-
06/30/2005	-	-	-	-	1,006,305.00
10/01/2005	925,000.00	2.800%	42,920.00	967,920.00	-
04/01/2006	-	-	29,970.00	29,970.00	-
06/30/2006	-	-	-	-	997,890.00
10/01/2006	930,000.00	3.100%	29,970.00	959,970.00	-
04/01/2007	-	-	15,555.00	15,555.00	-
06/30/2007	-	-	-	-	975,525.00
10/01/2007	915,000.00	3.400%	15,555.00	930,555.00	-
04/01/2008	-	-	-	-	-
06/30/2008	-	-	-	-	930,555.00
Total	\$3,680,000.00	-	\$230,275.00	\$3,910,275.00	-

Yield Statistics

Average Life	2.003 Years
Average Coupon	3.1244912%

City of Hopkinsville (Kentucky)

Water and Sewer Revenue Bonds

Series 2005, Series 2005A

Debt Service Schedule

Part 1 of 2

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
05/01/2005	-	-	-	-	-
10/01/2005	-	-	409,538.54	409,538.54	-
04/01/2006	-	-	491,446.25	491,446.25	-
06/30/2006	-	-	-	-	900,984.79
10/01/2006	550,000.00	3.375%	491,446.25	1,041,446.25	-
04/01/2007	-	-	482,165.00	482,165.00	-
06/30/2007	-	-	-	-	1,523,611.25
10/01/2007	550,000.00	3.375%	482,165.00	1,032,165.00	-
04/01/2008	-	-	472,883.75	472,883.75	-
06/30/2008	-	-	-	-	1,505,048.75
10/01/2008	975,000.00	3.375%	472,883.75	1,447,883.75	-
04/01/2009	-	-	456,430.63	456,430.63	-
06/30/2009	-	-	-	-	1,904,314.38
10/01/2009	1,010,000.00	3.375%	456,430.63	1,466,430.63	-
04/01/2010	-	-	439,386.88	439,386.88	-
06/30/2010	-	-	-	-	1,905,817.51
10/01/2010	1,045,000.00	3.375%	439,386.88	1,484,386.88	-
04/01/2011	-	-	421,752.50	421,752.50	-
06/30/2011	-	-	-	-	1,906,139.38
10/01/2011	1,080,000.00	3.500%	421,752.50	1,501,752.50	-
04/01/2012	-	-	402,852.50	402,852.50	-
06/30/2012	-	-	-	-	1,904,605.00
10/01/2012	1,120,000.00	3.625%	402,852.50	1,522,852.50	-
04/01/2013	-	-	382,552.50	382,552.50	-
06/30/2013	-	-	-	-	1,905,405.00
10/01/2013	1,160,000.00	3.700%	382,552.50	1,542,552.50	-
04/01/2014	-	-	361,092.50	361,092.50	-
06/30/2014	-	-	-	-	1,903,645.00
10/01/2014	1,205,000.00	3.700%	361,092.50	1,566,092.50	-
04/01/2015	-	-	338,800.00	338,800.00	-
06/30/2015	-	-	-	-	1,904,892.50
10/01/2015	1,250,000.00	4.000%	338,800.00	1,588,800.00	-
04/01/2016	-	-	313,800.00	313,800.00	-
06/30/2016	-	-	-	-	1,902,600.00
10/01/2016	1,300,000.00	4.000%	313,800.00	1,613,800.00	-
04/01/2017	-	-	287,800.00	287,800.00	-
06/30/2017	-	-	-	-	1,901,600.00
10/01/2017	1,355,000.00	4.000%	287,800.00	1,642,800.00	-
04/01/2018	-	-	260,700.00	260,700.00	-
06/30/2018	-	-	-	-	1,903,500.00
10/01/2018	1,410,000.00	4.000%	260,700.00	1,670,700.00	-
04/01/2019	-	-	232,500.00	232,500.00	-
06/30/2019	-	-	-	-	1,903,200.00
10/01/2019	1,470,000.00	4.000%	232,500.00	1,702,500.00	-

City of Hopkinsville (Kentucky)

Water and Sewer Revenue Bonds

Series 2005, Series 2005B (Refunding of 1996)

Debt Service Schedule

Part 1 of 2

Date	Principal	Coupon	Interest	Total P+i	Fiscal Total
05/01/2005	-	-	-	-	-
10/01/2005	45,000.00	3.000%	20,901.04	65,901.04	-
04/01/2006	-	-	24,406.25	24,406.25	-
06/30/2006	-	-	-	-	90,307.29
10/01/2006	115,000.00	3.000%	24,406.25	139,406.25	-
04/01/2007	-	-	22,681.25	22,681.25	-
06/30/2007	-	-	-	-	162,087.50
10/01/2007	120,000.00	3.000%	22,681.25	142,681.25	-
04/01/2008	-	-	20,881.25	20,881.25	-
06/30/2008	-	-	-	-	163,562.50
10/01/2008	120,000.00	3.000%	20,881.25	140,881.25	-
04/01/2009	-	-	19,081.25	19,081.25	-
06/30/2009	-	-	-	-	159,962.50
10/01/2009	130,000.00	3.000%	19,081.25	149,081.25	-
04/01/2010	-	-	17,131.25	17,131.25	-
06/30/2010	-	-	-	-	166,212.50
10/01/2010	130,000.00	3.000%	17,131.25	147,131.25	-
04/01/2011	-	-	15,181.25	15,181.25	-
06/30/2011	-	-	-	-	162,312.50
10/01/2011	135,000.00	3.000%	15,181.25	150,181.25	-
04/01/2012	-	-	13,156.25	13,156.25	-
06/30/2012	-	-	-	-	163,337.50
10/01/2012	140,000.00	3.250%	13,156.25	153,156.25	-
04/01/2013	-	-	10,881.25	10,881.25	-
06/30/2013	-	-	-	-	164,037.50
10/01/2013	145,000.00	3.375%	10,881.25	155,881.25	-
04/01/2014	-	-	8,434.38	8,434.38	-
06/30/2014	-	-	-	-	164,315.63
10/01/2014	150,000.00	3.500%	8,434.38	158,434.38	-
04/01/2015	-	-	5,809.38	5,809.38	-
06/30/2015	-	-	-	-	164,243.76
10/01/2015	155,000.00	3.625%	5,809.38	160,809.38	-
04/01/2016	-	-	3,000.00	3,000.00	-
06/30/2016	-	-	-	-	163,809.38
10/01/2016	160,000.00	3.750%	3,000.00	163,000.00	-
06/30/2017	-	-	-	-	163,000.00
Total	\$1,545,000.00	-	\$342,188.56	\$1,887,188.56	-

City of Hopkinsville (Kentucky)

Water and Sewer Revenue Bonds

Series 2005B (Refunding of 1996)

Debt Service Comparison

Date	Principal	Coupon	Interest	New D/S	OLD D/S	Savings
06/30/2005	-	-	-	-	-	-
06/30/2006	45,000.00	-	45,307.29	90,307.29	96,627.50	6,320.21
06/30/2007	115,000.00	-	47,087.50	162,087.50	169,817.50	7,730.00
06/30/2008	120,000.00	-	43,562.50	163,562.50	169,747.50	6,185.00
06/30/2009	120,000.00	-	39,962.50	159,962.50	169,391.25	9,428.75
06/30/2010	130,000.00	-	36,212.50	166,212.50	173,587.50	7,375.00
06/30/2011	130,000.00	-	32,312.50	162,312.50	172,270.00	9,957.50
06/30/2012	135,000.00	-	28,337.50	163,337.50	170,500.00	7,162.50
06/30/2013	140,000.00	-	24,037.50	164,037.50	173,220.00	9,182.50
06/30/2014	145,000.00	-	19,315.63	164,315.63	170,520.00	6,204.37
06/30/2015	150,000.00	-	14,243.76	164,243.76	172,400.00	8,156.24
06/30/2016	155,000.00	-	8,809.38	163,809.38	173,720.00	9,910.62
06/30/2017	160,000.00	-	3,000.00	163,000.00	169,620.00	6,620.00
Total	\$1,545,000.00	-	\$342,188.56	\$1,887,188.56	\$1,981,421.25	\$94,232.69

PV Analysis Summary

Net Present Value Benefit	\$80,277.30
Net PV Benefit / \$1,500,000 Refunded Principal	5.352%

City of Hopkinsville (Kentucky)

Water and Sewer Refunding Revenue Bonds

Series 1993

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
04/01/2004	-	-	-	-	-
06/30/2004	-	-	-	-	-
10/01/2004	297,413.94	4.620%	32,467.15	329,881.09	-
04/01/2005	-	-	25,596.89	25,596.89	-
04/02/2005	-	-	-	-	-
06/30/2005	-	-	-	-	355,477.98
10/01/2005	313,241.56	4.680%	25,596.89	338,838.45	-
04/01/2006	-	-	18,267.04	18,267.04	-
06/30/2006	-	-	-	-	357,105.49
10/01/2006	350,097.99	4.770%	18,267.04	368,365.03	-
04/01/2007	-	-	9,917.20	9,917.20	-
06/30/2007	-	-	-	-	378,282.23
10/01/2007	408,115.28	4.860%	9,917.20	418,032.48	-
04/01/2008	-	-	-	-	-
06/30/2008	-	-	-	-	418,032.48
Total	\$1,368,868.77	-	\$140,029.41	\$1,508,898.18	-

Yield Statistics

Average Life	2.135 Years
Average Coupon	4.7918883%

City of Hopkinsville (Kentucky)

Water and Sewer Refunding Revenue Bonds

Series 2002

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
04/01/2004	-	-	-	-	-
06/30/2004	-	-	-	-	-
10/01/2004	910,000.00	2.300%	53,385.00	963,385.00	-
04/01/2005	-	-	42,920.00	42,920.00	-
06/30/2005	-	-	-	-	1,006,305.00
10/01/2005	925,000.00	2.800%	42,920.00	967,920.00	-
04/01/2006	-	-	29,970.00	29,970.00	-
06/30/2006	-	-	-	-	997,890.00
10/01/2006	930,000.00	3.100%	29,970.00	959,970.00	-
04/01/2007	-	-	15,555.00	15,555.00	-
06/30/2007	-	-	-	-	975,525.00
10/01/2007	915,000.00	3.400%	15,555.00	930,555.00	-
04/01/2008	-	-	-	-	-
06/30/2008	-	-	-	-	930,555.00
Total	\$3,680,000.00	-	\$230,275.00	\$3,910,275.00	-

Yield Statistics

Average Life	2.003 Years
Average Coupon	3.1244912%

City of Hopkinsville (Kentucky)

Water and Sewer Revenue Bonds

Series 2005, Series 2005A

Debt Service Schedule

Part 1 of 2

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
05/01/2005	-	-	-	-	-
10/01/2005	-	-	409,538.54	409,538.54	-
04/01/2006	-	-	491,446.25	491,446.25	-
06/30/2006	-	-	-	-	900,984.79
10/01/2006	550,000.00	3.375%	491,446.25	1,041,446.25	-
04/01/2007	-	-	482,165.00	482,165.00	-
06/30/2007	-	-	-	-	1,523,611.25
10/01/2007	550,000.00	3.375%	482,165.00	1,032,165.00	-
04/01/2008	-	-	472,883.75	472,883.75	-
06/30/2008	-	-	-	-	1,505,048.75
10/01/2008	975,000.00	3.375%	472,883.75	1,447,883.75	-
04/01/2009	-	-	456,430.63	456,430.63	-
06/30/2009	-	-	-	-	1,904,314.38
10/01/2009	1,010,000.00	3.375%	456,430.63	1,466,430.63	-
04/01/2010	-	-	439,386.88	439,386.88	-
06/30/2010	-	-	-	-	1,905,817.51
10/01/2010	1,045,000.00	3.375%	439,386.88	1,484,386.88	-
04/01/2011	-	-	421,752.50	421,752.50	-
06/30/2011	-	-	-	-	1,906,139.38
10/01/2011	1,080,000.00	3.500%	421,752.50	1,501,752.50	-
04/01/2012	-	-	402,852.50	402,852.50	-
06/30/2012	-	-	-	-	1,904,605.00
10/01/2012	1,120,000.00	3.625%	402,852.50	1,522,852.50	-
04/01/2013	-	-	382,552.50	382,552.50	-
06/30/2013	-	-	-	-	1,905,405.00
10/01/2013	1,160,000.00	3.700%	382,552.50	1,542,552.50	-
04/01/2014	-	-	361,092.50	361,092.50	-
06/30/2014	-	-	-	-	1,903,645.00
10/01/2014	1,205,000.00	3.700%	361,092.50	1,566,092.50	-
04/01/2015	-	-	338,800.00	338,800.00	-
06/30/2015	-	-	-	-	1,904,892.50
10/01/2015	1,250,000.00	4.000%	338,800.00	1,588,800.00	-
04/01/2016	-	-	313,800.00	313,800.00	-
06/30/2016	-	-	-	-	1,902,600.00
10/01/2016	1,300,000.00	4.000%	313,800.00	1,613,800.00	-
04/01/2017	-	-	287,800.00	287,800.00	-
06/30/2017	-	-	-	-	1,901,600.00
10/01/2017	1,355,000.00	4.000%	287,800.00	1,642,800.00	-
04/01/2018	-	-	260,700.00	260,700.00	-
06/30/2018	-	-	-	-	1,903,500.00
10/01/2018	1,410,000.00	4.000%	260,700.00	1,670,700.00	-
04/01/2019	-	-	232,500.00	232,500.00	-
06/30/2019	-	-	-	-	1,903,200.00
10/01/2019	1,470,000.00	4.000%	232,500.00	1,702,500.00	-

City of Hopkinsville (Kentucky)
Water and Sewer Revenue Bonds
Series 2005, Series 2005B (Refunding of 1996)

Debt Service Schedule

Part 1 of 2

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
05/01/2005	-	-	-	-	-
10/01/2005	45,000.00	3.000%	20,901.04	65,901.04	-
04/01/2006	-	-	24,406.25	24,406.25	-
06/30/2006	-	-	-	-	90,307.29
10/01/2006	115,000.00	3.000%	24,406.25	139,406.25	-
04/01/2007	-	-	22,681.25	22,681.25	-
06/30/2007	-	-	-	-	162,087.50
10/01/2007	120,000.00	3.000%	22,681.25	142,681.25	-
04/01/2008	-	-	20,881.25	20,881.25	-
06/30/2008	-	-	-	-	163,562.50
10/01/2008	120,000.00	3.000%	20,881.25	140,881.25	-
04/01/2009	-	-	19,081.25	19,081.25	-
06/30/2009	-	-	-	-	159,962.50
10/01/2009	130,000.00	3.000%	19,081.25	149,081.25	-
04/01/2010	-	-	17,131.25	17,131.25	-
06/30/2010	-	-	-	-	166,212.50
10/01/2010	130,000.00	3.000%	17,131.25	147,131.25	-
04/01/2011	-	-	15,181.25	15,181.25	-
06/30/2011	-	-	-	-	162,312.50
10/01/2011	135,000.00	3.000%	15,181.25	150,181.25	-
04/01/2012	-	-	13,156.25	13,156.25	-
06/30/2012	-	-	-	-	163,337.50
10/01/2012	140,000.00	3.250%	13,156.25	153,156.25	-
04/01/2013	-	-	10,881.25	10,881.25	-
06/30/2013	-	-	-	-	164,037.50
10/01/2013	145,000.00	3.375%	10,881.25	155,881.25	-
04/01/2014	-	-	8,434.38	8,434.38	-
06/30/2014	-	-	-	-	164,315.63
10/01/2014	150,000.00	3.500%	8,434.38	158,434.38	-
04/01/2015	-	-	5,809.38	5,809.38	-
06/30/2015	-	-	-	-	164,243.76
10/01/2015	155,000.00	3.625%	5,809.38	160,809.38	-
04/01/2016	-	-	3,000.00	3,000.00	-
06/30/2016	-	-	-	-	163,809.38
10/01/2016	160,000.00	3.750%	3,000.00	163,000.00	-
06/30/2017	-	-	-	-	163,000.00
Total	\$1,545,000.00	-	\$342,188.56	\$1,887,188.56	-

City of Hopkinsville (Kentucky)
Water and Sewer Revenue Bonds
Series 2005B (Refunding of 1996)

Debt Service Comparison

Date	Principal	Coupon	Interest	New D/S	OLD D/S	Savings
06/30/2005	-	-	-	-	-	-
06/30/2006	45,000.00	-	45,307.29	90,307.29	96,627.50	6,320.21
06/30/2007	115,000.00	-	47,087.50	162,087.50	169,817.50	7,730.00
06/30/2008	120,000.00	-	43,562.50	163,562.50	169,747.50	6,185.00
06/30/2009	120,000.00	-	39,962.50	159,962.50	169,391.25	9,428.75
06/30/2010	130,000.00	-	36,212.50	166,212.50	173,587.50	7,375.00
06/30/2011	130,000.00	-	32,312.50	162,312.50	172,270.00	9,957.50
06/30/2012	135,000.00	-	28,337.50	163,337.50	170,500.00	7,162.50
06/30/2013	140,000.00	-	24,037.50	164,037.50	173,220.00	9,182.50
06/30/2014	145,000.00	-	19,315.63	164,315.63	170,520.00	6,204.37
06/30/2015	150,000.00	-	14,243.76	164,243.76	172,400.00	8,156.24
06/30/2016	155,000.00	-	8,809.38	163,809.38	173,720.00	9,910.62
06/30/2017	160,000.00	-	3,000.00	163,000.00	169,620.00	6,620.00
Total	\$1,545,000.00	-	\$342,188.56	\$1,887,188.56	\$1,981,421.25	\$94,232.69

PV Analysis Summary

Net Present Value Benefit	\$80,277.30
Net PV Benefit / \$1,500,000 Refunded Principal	5.352%

HWEA															
Summary of Annual Production Statistics															
Moss WTP															
Raw Water Withdrawn	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Totals	Annual % Increase	5 Year % Increase
1998	172.8	155.4	172.2	169.1	180.7	183.4	192.7	198.5	217.4	199.4	182.5	184.1	2,208.2		
1999	184.9	165.7	187.7	177.0	196.3	203.9	225.5	234.3	215.0	204.2	184.2	178.8	2,357.5	6.76	
2000	180.3	180.5	193.7	187.5	213.2	225.8	241.0	236.9	218.7	222.8	192.9	191.4	2,484.7	5.40	
2001	195.0	187.7	204.0	209.6	224.3	225.3	237.5	235.9	210.1	215.5	208.8	202.3	2,556.0	2.87	
2002	218.7	180.9	201.9	201.5	218.3	223.7	237.9	230.5	222.1	209.1	202.0	211.1	2,557.7	0.07	15.83
Single Day Peak Dem.	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Avg		
1998	6.21	6.04	6.14	7.82	6.88	7.82	7.39	7.39	8.06	7.89	6.72	8.06	7.20		
1999	7.75	6.79	6.70	6.95	7.64	7.86	8.32	8.31	8.26	7.39	7.21	6.77	7.50	4.08	
2000	7.61	6.85	6.77	7.49	8.34	8.79	8.50	8.67	8.40	8.80	7.74	7.40	7.95	6.01	
2001	8.19	7.50	7.29	7.59	8.68	8.98	8.96	8.91	8.67	7.41	7.65	8.09	8.16	2.68	
2002	8.15	6.95	7.06	7.43	7.94	8.50	9.00	8.62	8.88	8.32	8.70	8.60	8.18	0.23	13.57
Monthly Average	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Avg		
1998	5.57	5.55	5.55	5.64	5.83	6.11	6.22	6.40	7.25	6.43	6.08	5.94	6.05		
1999	5.96	5.92	6.05	5.90	6.33	6.80	7.27	7.56	7.17	6.59	6.14	5.77	6.46	6.74	
2000	5.82	6.22	6.25	6.25	6.87	7.52	7.77	7.64	7.29	7.18	6.43	6.17	6.78	5.10	
2001	6.29	6.70	6.58	6.98	7.23	7.51	7.66	7.61	7.00	6.95	6.73	6.52	6.98	2.89	
2002	7.05	6.46	6.51	6.71	7.04	7.45	7.67	7.43	7.40	6.74	6.73	6.80	7.00	0.27	15.74
Customer Accounts	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Avg		
1998	13,128	13,090	13,140	13,159	13,202	13,213	13,176	13,206	13,213	13,247	13,227	13,221	13,185		
1999	13,180	13,234	13,279	13,322	13,323	13,340	13,386	13,414	13,461	13,457	13,473	13,491	13,363	1.35	
2000	13,426	13,418	13,469	13,356	13,505	13,571	13,612	13,579	13,590	13,598	13,479	13,609	13,518	1.15	
2001	13,544	13,523	13,545	13,564	13,403	13,631	13,656	13,618	13,605	13,558	13,572	13,506	13,560	0.32	
2002	13,486	13,497	13,555	13,529	13,616	13,657	13,664	13,654	13,641	13,644	13,626	13,624	13,599	0.29	3.14

III. INVENTORY AND NEED

The purpose of this chapter is to determine the ultimate water supply need facing the Hopkinsville system. This determination is made through data organized under the headings of: Existing System Inventory, Growth Analysis and Future Raw Water Needs.

A. Existing System Inventory -

The following is a general inventory of the Hopkinsville Water System described under three major headings: Supply, Treatment and Distribution/Usage:

1. **Supply** - Raw water for the Hopkinsville system is pulled from two sources: the Little River bolstered principally by two (of four) upstream watershed lakes and two (of three) rock quarries.

In their July, 1992 Preliminary Engineering Report for the new Moss WTP, H.K. Bell Engineers drafted the following succinct description of the watershed lakes at Hopkinsville (*italics*). More current information has been inserted where applicable:

Hopkinsville presently has two raw water supplies: the North Fork of the Little River and three stone quarries. The river itself has a limited drainage basin, less than 38 square miles, including the drainage basins of the reservoirs listed below. It receives its water for municipal use from controlled withdrawal of Lake Boxley and Lake Morris in periods of inadequate runoff. Some withdrawal is also possible from Lake Tandy and Lake Blythe in emergency conditions. All of these lakes are more than 30 years old. All four lakes have experienced increased raw water demand since 1992.

Lake Boxley had approximately 563.6 million gallons of gross storage as originally built and a drainage basin of 9.75 square miles, or 6240 acres. Lake Morris had approximately 533.0 million gallons of gross storage as originally designed and a drainage basin of 7.51 square miles, or 4806 acres. The karst topography of the area reduces the actual amount of drainage basin available.

A computer analysis using the Soil Conservation Service's Reservoir Operation Program (SCS RESOP) program determined there is a maximum available amount of 3.5 million gallons per day (MGD) from Lake Boxley and 3.0 MGD from Lake Morris. This was a drought equal to the 1930-1931 drought. For both lakes the water level would be low enough that there would be severe water quality problems.

Lake Tandy and Lake Blythe are also in the North Fork drainage basin. These two lakes were constructed as recreation lakes. They do not have any water allocated for municipal use nor do they have intake pipes. Each does have one drawdown port for lowering the water level or emptying the lakes if necessary. This allows the lakes to supply water to the North Fork in emergencies. Lake Tandy was originally built in 1907 and has the smallest original gross storage (181 million gallons). It should be ignored as a potential water source. Lake Tandy has been recently used as an emergency source. Lake Blythe has the smallest drainage basin (2176 acres) and could yield approximately 1.5 MGD.....if it were used as a water supply lake on a continuous basis. For use on an emergency basis, only the available storage without runoff can be considered.

In its January, 1996 report entitled HWEA Supplemental Raw Water Supplies, HWEA estimated 30-40% loss in storage capacity at the watershed lakes due to filtration and increased vegetative growth resulting from agricultural runoff.

Also contained in this report is a good description (italics) of the other major raw water source used by Hopkinsville; the quarries:

The HWEA also has the use of three quarries: North, South, and Blue Lake. The North Quarry has a total capacity of 1,185,000,000 gallons. Since the intake only extends 70 feet into the quarry, only 638,076,980 gallons are available for raw water. The North Quarry has a recharge of about 4 MGD. The South Quarry has a capacity of 286,000,000 gallons. Recharge from springs or groundwater is only about 350,000 gpd. Majority of the recharge is from the river and then only at high stage. Blue Lake has a capacity of about 412,000,000 gallons. The recharge is primarily underground from the river and is related to the depth in the river.

HWEA has recently regained permission from the Kentucky Division of Water to withdraw water from Blue Lake as a backup source.

2. **Treatment** - Water treatment is currently accomplished through the 7.0 MGD capacity Vine Street Water Treatment Plant. Originally constructed in 1941 at 2.0 MGD, this plant has undergone 3 major expansions to arrive at its current capacity (3 MGD/1959, 5 MGD/1962, 7 MGD/1974). In 1995, the Vine Street WTP delivered an average of 163.7 million gallons of water per month to the distribution system; around 5.2 million gallons per day in 18 hours of operation.

Construction is currently underway on the new 10.0 MGD Moss Water Treatment Plant. Located adjacent to the existing water works, the Moss WTP is programmed to replace the Vine Street treatment facility in 1997. At the existing demand level of 5.2 MGD (average), anticipated daily time of operation is 12-13 hours.

3. **Distribution/Usage** - In 1995, the Hopkinsville Water Environment Authority distributed water through 234 miles of line to 12,800 paid customers. Types (percent) of users included residential (87%), commercial (10%), industrial (1%), and other users (2%). Although only 1% of the users is industrial, this group accounts for over 33% of the overall volume of water used.

Geographically, the existing distribution system includes Hopkinsville, Pembroke and Crofton.

B. Growth Analysis -

This section documents historical and projects future growth of Hopkinsville and its water system.

1. **Historical Growth** - Since 1960, the City of Hopkinsville and Christian County have experienced marked growth in population as shown by the Exhibit 3-1.

Exhibit 3-1

Hopkinsville Population Growth 1940 - 1996

Year	Population
1940	11,724
1950	12,526
1960	19,465
1965	20,480
1970	21,480
1975	23,410
1980	27,318
1985	27,800
1990	29,809
1991	30,107
1996	31,598

Specifically, the Hopkinsville population from 1965 to 1996 has grown 54.3 percent; significant growth for a 31 year period. The telling statistic, however, is the growth of the water system over the same period. From 1964 to 1995 (also 31 years), the number of water customers grew 68.2%; length

of distribution line grew 112.6%; and potable water produced (demand) grew 131.2%. A couple of items explain the discrepancy between population and system growth in Hopkinsville:

- a. Geographically, the distribution system has spread beyond the City of Hopkinsville (Pembroke, Crofton).
- b. Significant growth in the industrial sector has markedly increased water usage (from 1980 to 1992 a 246% increase in industrial water usage) as shown by Exhibit 3-2.

Exhibit 3-2

HOPKINSVILLE INDUSTRIAL GROWTH 1960 - Present (10/92)	
Prior to 1960	Nine existing Industrial Facilities
1961-1965	2 plants located
1966-1970	6 plants located
1971-1980	3 plants located
1981-1985	4 plants located *
1986-1990	7 plants located
1990 - Present	3 plants located

Since 1980, 13 major plant expansions have been initiated. In 1980, the wastewater generated in Hopkinsville attributable to industrial processing was 505,720 gpd. The wastewater from industrial sources had been estimated to increase to 870,000 gpd by 1995 based on historical trends. In fact by 1992, total industrially-contributed flow averaged 1,752,000 gpd (1.39 MGD-Hammond-Wood Wastewater Treatment plant and 0.362 MGD-Northside Wastewater Treatment Plant).

* During this period 4 major plants closed: Hopkinsville Apparel, International Shoe, Kaufman and Broad, and Kentucky Clothing Manufacturing, a total employment of 703.

- 2. **Growth Projections** - There is every reason to believe that over the next 30 years, water system growth will continue to out-pace population growth:
 - a. Geographically, the whole of Christian County and Ft. Campbell hold short range potential for water service. Together they could represent another 30% - 50% increase in customers. Adjacent counties, Trigg and Todd, hold longer range potential.

- b. Industrial development has shown steady growth, fueling optimism of a continuation at about the same rate (+ - 5 plants every 5 years).

In 1990, the Hopkinsville Planning Commission forecast 20% growth in population thru the year 2010. Given 15.6% growth from 1980-1996 (16 out of 20 years), this 20% forecast appears reasonable.

As previously documented, growth in water production (need) has out-paced population by about 2.5 times. It follows then that over the next 20 years, one could reasonably forecast a 50% increase in water demand on the system. Given the present average plant production of 5.2 MGD (6.9 MGD peak), the expected demand in the year 2015 would be 7.8 MGD (10.4 MGD peak).

Extrapolating this growth pattern another 35 years (to match the + - 50 year life expectancy of a ductile-iron raw water line placed into service in the year 2000) the water demands would be as follows:

<u>Year</u>	<u>2015</u>	<u>2035</u>	<u>2050</u>
Avg.	7.8 MGD	11.7 MGD	16.1 MGD
Peak	10.4 MGD	15.6 MGD	21.5 MGD

C. Future Raw Water Needs -

The HWEA, in its Request for Qualifications for the Lake Barkley Raw Water System, estimated a long range raw water supply need of 20 MGD. The previously calculated long range demands (+ - 50 years) confirm that 20 MGD is an appropriate ultimate (peak) volume by which to plan and design.

